

Wisconsin's 2016 open water sportfishing effort and harvest from Lake Michigan and Green Bay

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Abstract – The sport fishery in Wisconsin waters of Lake Michigan and Green Bay was documented from March 1, 2016 through November 20, 2016. Fishing effort, harvest and harvest-rates were determined from 1) a stratified-random creel survey of launched-boat, pier, shore and stream anglers; 2) a randomized mail survey of moored-boat anglers; and 3) mandatory charter-boat reporting. For a detailed description of methods see Eggold 1995.

Anglers spent an estimated 2,628,353 hours fishing on Lake Michigan and Green Bay during 2016 with boat-angler effort at 2,091,422 hours, or 80% of the total hours. Fishing effort during 2016 was slightly lower than effort in 2015, but was on track with the ten-year average.

The estimated harvest of 557,478 fish was dominated by Chinook salmon (139,082) followed by Coho salmon (125,964). The boat fishery, comprised of launched-boat, moored-boat, and charter-boat anglers, dominated the fishery by harvesting an estimated 507,769 fish, which was 91% of the total harvest and was led by Chinook salmon (126,448) and Coho salmon (117,941). Pier anglers harvested primarily Coho salmon, followed by Chinook salmon and yellow perch. Stream anglers harvested primarily walleye, followed by Chinook salmon and rainbow trout. Shore anglers harvested primarily brown trout, followed by Coho salmon and Chinook salmon. Overall harvest-rates were highest for Chinook salmon at 0.0529 fish/hour, followed by Coho salmon at 0.0479 fish/hour.

The 2016 Chinook harvest of 139,082 fish was higher than the record-low 2015 harvest of 113,973 fish. The 2016 harvest was also higher than 2014 harvest (130,698), but remained 40% below the ten-year average. A mild winter and spring led to a better fishing season than the previous two years, despite a weak 2013 year-class for Chinook.

Coho harvest in 2016 was 125,964, which was 69% above the ten-year average Coho harvest. The 2016 rainbow trout harvest of 76,846 was 24% above the ten-year

average. Brown trout harvest in 2016 was 23,879, which was 15% above the ten-year average. A total of 19,137 lake trout were harvested in 2016, which was 3% below the ten-year average. The 2016 harvest-rate for all salmonids combined was 0.1464 fish/hour.

The 2016 harvest of yellow perch in Green Bay was 72,223, which was 64% below the ten-year average. The Lake Michigan yellow perch harvest in 2016 was 2,132; the lowest on record and 91% below the ten-year average. Perch harvest in Lake Michigan has been on a downward trend since 1993. The sport catch is now mainly comprised of the 2012 year-class followed by the 2010 year-class. Age was assigned using the anal spines of 100 Lake Michigan angler-caught yellow perch during 2016. The 2012 year-class represented 74% of the total. The 2010 year-class contributed 13% to the fishery.

In 2016, the standard weight of a 28-inch Chinook was 10.3 pounds, which was 7.3% above the ten-year average. The standard weight for a 22-inch Coho was 3.92 pounds, which was on track with the ten-year average. The standard weight for a 25-inch rainbow was 4.28 pounds, which was 2.6% above the ten-year average. The standard weight of a 25-inch lake trout was 5.83 pounds which was 3.4% above the ten-year average. The standard weight of a 21-inch brown trout was 3.96 pounds, which was within 1% of the ten-year average.

REFERENCES

Eggold, B.T. 1995. Wisconsin's 1995 open water sportfishing effort and catch from Lake Michigan and Green Bay. Wisconsin Department of Natural Resources, Plymouth, Wisconsin. 19 pages.

Table 1. Estimated angler effort (hours) by location in Wisconsin waters of Lake Michigan and Green Bay during March through December of 2007 through 2016. Standard deviations are in Italics.

Location	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Average
Kenosha Co.	169,253	123,931	141,626	146,762	116,032	135,980	128,865	130,028	101,115	109,277	130,287
	<i>7,378</i>	<i>5,748</i>	<i>8,197</i>	<i>8,287</i>	<i>5,801</i>	<i>2,851</i>	<i>5,255</i>	<i>5,420</i>	<i>5,005</i>	<i>5,481</i>	<i>6,142</i>
Racine Co.	154,228	120,828	175,220	161,959	151,135	131,342	122,651	122,670	102,899	107,400	135,033
	<i>8,678</i>	<i>5,968</i>	<i>9,991</i>	<i>9,422</i>	<i>7,225</i>	<i>10,091</i>	<i>8,484</i>	<i>7,070</i>	<i>8,988</i>	<i>7,777</i>	<i>8,466</i>
Milwaukee Co.	355,727	244,716	302,368	340,503	276,843	324,011	290,866	255,180	266,000	296,612	295,283
	<i>13,893</i>	<i>9,890</i>	<i>13,669</i>	<i>14,174</i>	<i>15,204</i>	<i>14,704</i>	<i>11,427</i>	<i>10,870</i>	<i>10,079</i>	<i>12,556</i>	<i>12,782</i>
Ozaukee Co.	221,062	178,438	209,223	215,809	256,961	208,450	203,739	190,049	172,696	215,442	207,187
	<i>10,577</i>	<i>8,175</i>	<i>11,968</i>	<i>10,210</i>	<i>19,364</i>	<i>12,203</i>	<i>9,651</i>	<i>9,525</i>	<i>8,333</i>	<i>13,704</i>	<i>11,795</i>
Sheboygan Co.	269,932	214,928	222,741	238,132	199,350	225,384	206,006	213,716	216,025	211,476	221,769
	<i>15,383</i>	<i>10,367</i>	<i>11,542</i>	<i>12,909</i>	<i>9,537</i>	<i>11,503</i>	<i>9,124</i>	<i>10,111</i>	<i>11,712</i>	<i>11,733</i>	<i>11,522</i>
Manitowoc Co.	233,155	162,851	198,420	206,362	179,525	212,739	178,186	188,585	169,683	185,257	191,476
	<i>13,626</i>	<i>9,415</i>	<i>10,255</i>	<i>9,591</i>	<i>8,336</i>	<i>10,796</i>	<i>8,370</i>	<i>9,482</i>	<i>8,250</i>	<i>10,330</i>	<i>9,961</i>
Kewaunee Co.	480,792	409,096	405,917	382,614	323,860	311,407	373,777	355,094	366,474	290,327	369,936
	<i>21,041</i>	<i>16,508</i>	<i>17,954</i>	<i>22,200</i>	<i>12,740</i>	<i>7,780</i>	<i>14,969</i>	<i>15,390</i>	<i>15,312</i>	<i>13,069</i>	<i>16,185</i>
E. Door Co.	246,522	167,331	184,720	213,147	151,136	204,549	197,007	173,099	217,815	204,727	196,005
	<i>11,672</i>	<i>13,149</i>	<i>9,653</i>	<i>14,552</i>	<i>7,001</i>	<i>23,159</i>	<i>12,272</i>	<i>9,008</i>	<i>3,414</i>	<i>10,731</i>	<i>12,482</i>
Green Bay	930,708	874,362	1,017,143	936,050	886,143	771,724	1,078,064	991,943	1,115,376	1,007,835	960,935
	<i>33,729</i>	<i>35,185</i>	<i>38,890</i>	<i>42,151</i>	<i>40,835</i>	<i>26,553</i>	<i>46,108</i>	<i>46,490</i>	<i>36,343</i>	<i>35,109</i>	<i>38,572</i>
Total Effort	3,061,379	2,496,481	2,857,378	2,841,338	2,540,985	2,525,586	2,779,161	2,620,364	2,728,083	2,628,353	2,707,911
	<i>50,730</i>	<i>45,967</i>	<i>51,588</i>	<i>56,591</i>	<i>52,261</i>	<i>45,010</i>	<i>54,564</i>	<i>54,403</i>	<i>45,267</i>	<i>46,893</i>	<i>50,490</i>

Table 2. Estimated harvest and total harvest-rate (number per hour, all anglers combined) of salmonids in Wisconsin waters of Lake Michigan and Green Bay during March through December of 2007 through 2016. Standard deviations are in *Italics*.

Species	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Average
Coho Salmon	94,677	25,453	42,690	42,445	157,367	73,395	89,061	52,297	41,010	125,964	74,436
	<i>3,776</i>	<i>1,222</i>	<i>1,989</i>	<i>2,039</i>	<i>11,432</i>	<i>3,114</i>	<i>3,927</i>	<i>6,572</i>	<i>4,329</i>	<i>5,552</i>	<i>5,219</i>
Chinook Salmon	431,143	256,796	214,621	315,294	169,752	390,385	145,301	130,698	113,973	139,082	230,705
	<i>10,425</i>	<i>6,658</i>	<i>5,645</i>	<i>8,164</i>	<i>4,083</i>	<i>9,058</i>	<i>4,363</i>	<i>3,587</i>	<i>3,479</i>	<i>4,724</i>	<i>6,454</i>
Rainbow Trout	62,249	41,552	46,529	49,121	75,442	75,981	58,311	73,105	59,106	76,846	61,824
	<i>2,212</i>	<i>1,635</i>	<i>2,063</i>	<i>2,023</i>	<i>2,588</i>	<i>2,592</i>	<i>1,969</i>	<i>2,286</i>	<i>1,707</i>	<i>2,897</i>	<i>2,230</i>
Brown Trout	37,947	23,763	15,792	13,029	9,936	21,337	17,094	23,324	20,174	23,879	20,628
	<i>2,580</i>	<i>2,146</i>	<i>958</i>	<i>1,114</i>	<i>846</i>	<i>1,768</i>	<i>1,303</i>	<i>1,785</i>	<i>1,899</i>	<i>2,589</i>	<i>1,802</i>
Brook Trout	62	13	27	0	26	18	0	0	0	0	15
	<i>24</i>	<i>14</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>9</i>
Lake Trout	19,281	12,763	14,946	17,483	17,788	29,094	27,240	25,425	35,715	19,137	21,887
	<i>893</i>	<i>554</i>	<i>803</i>	<i>775</i>	<i>1,236</i>	<i>1,261</i>	<i>1,005</i>	<i>1,098</i>	<i>1,460</i>	<i>868</i>	<i>1,028</i>
Total Harvest	645,359	360,340	334,605	437,372	430,311	590,210	337,007	304,849	269,978	384,908	409,494
	<i>11,631</i>	<i>7,308</i>	<i>6,453</i>	<i>8,760</i>	<i>12,502</i>	<i>10,158</i>	<i>6,406</i>	<i>8,104</i>	<i>6,285</i>	<i>8,306</i>	<i>8,842</i>
Harvest-Rate	0.2108	0.1443	0.1171	0.1539	0.1693	0.2337	0.1213	0.1163	0.0990	0.1464	0.1512

Table 3. Estimated harvest and total harvest-rate (number per hour, all anglers combined) of yellow perch in Wisconsin waters of Lake Michigan and Green Bay during March through December of 2007 through 2016. Standard deviations (estimates) are in *Italics*.

Location	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Average
Green Bay	501,646	196,852	204,209	225,995	254,942	148,980	215,422	118,980	93,964	72,223	203,321
	<i>36,032</i>	<i>15,560</i>	<i>19,361</i>	<i>21,042</i>	<i>24,973</i>	<i>13,685</i>	<i>18,974</i>	<i>12,283</i>	<i>9,780</i>	<i>8,923</i>	<i>19,634</i>
Harvest-Rate	0.5390	0.2251	0.2008	0.2414	0.2877	0.1930	0.1998	0.1199	0.0842	0.0717	0.2163
Lake Michigan	66,240	20,648	50,744	51,265	16,982	9,115	8,830	8,174	5,358	2,132	23,949
	<i>5,327</i>	<i>2,562</i>	<i>5,122</i>	<i>4,787</i>	<i>2,296</i>	<i>1,071</i>	<i>1,221</i>	<i>1,108</i>	<i>1,021</i>	<i>607</i>	<i>3,076</i>
Harvest-Rate	0.0311	0.0127	0.0276	0.0269	0.0103	0.0052	0.0052	0.0050	0.0033	0.0013	0.0129
Total Harvest	567,886	217,500	254,953	277,260	271,924	158,095	224,252	127,154	99,322	74,355	227,270
	<i>36,424</i>	<i>15,769</i>	<i>20,027</i>	<i>21,579</i>	<i>25,078</i>	<i>13,727</i>	<i>19,013</i>	<i>12,333</i>	<i>9,834</i>	<i>8,944</i>	<i>19,874</i>
Harvest-Rate	0.1855	0.0871	0.0892	0.0976	0.1070	0.0626	0.0807	0.0485	0.0364	0.0283	0.0839

Note: Table 3 reflects that some Door County sites represent Green Bay for yellow perch harvest statistics.

Table 4. Estimated harvest-rate (harvest per hour), harvest and effort for all survey areas and **ALL FISHERY TYPES** for Wisconsin waters of Lake Michigan and Green Bay during 2016. Standard deviations are in *Italics*.

Species	Harvest per hour	Jan/Feb/ March/April	May	June	July	August	Sept/Oct	Nov/Dec	Season
Coho Salmon	0.0479	463 <i>127</i>	32,304 <i>3,725</i>	48,549 <i>3,321</i>	34,259 <i>2,327</i>	5,731 <i>499</i>	4,655 <i>486</i>	3 <i>0</i>	125,964 <i>5,552</i>
Chinook Salmon	0.0529	21 <i>10</i>	2,838 <i>451</i>	23,133 <i>1,501</i>	75,145 <i>4,018</i>	21,715 <i>1,401</i>	16,230 <i>1,326</i>	0 <i>0</i>	139,082 <i>4,724</i>
Rainbow Trout	0.0292	4,796 <i>737</i>	4,564 <i>557</i>	21,355 <i>1,715</i>	20,648 <i>1,209</i>	18,960 <i>1,628</i>	6,523 <i>697</i>	0 <i>0</i>	76,846 <i>2,897</i>
Brown Trout	0.0091	8,935 <i>2,315</i>	1,308 <i>204</i>	672 <i>176</i>	4,273 <i>456</i>	3,065 <i>511</i>	5,608 <i>895</i>	18 <i>0</i>	23,879 <i>2,589</i>
Brook Trout	0.0000	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>
Lake Trout	0.0073	196 <i>104</i>	970 <i>161</i>	3,321 <i>439</i>	5,851 <i>426</i>	6,222 <i>497</i>	2,577 <i>306</i>	0 <i>0</i>	19,137 <i>868</i>
Splake	0.0000	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>
Northern Pike	0.0011	823 <i>769</i>	563 <i>242</i>	63 <i>48</i>	77 <i>58</i>	309 <i>329</i>	957 <i>612</i>	0 <i>0</i>	2,792 <i>1,067</i>
White Perch	0.0000	0 <i>0</i>	21 <i>21</i>	33 <i>32</i>	0 <i>0</i>	49 <i>49</i>	0 <i>0</i>	0 <i>0</i>	103 <i>62</i>
Smallmouth Bass	0.0064	0 <i>0</i>	12,649 <i>3,892</i>	1,421 <i>1,197</i>	1,967 <i>871</i>	609 <i>266</i>	234 <i>142</i>	0 <i>0</i>	16,880 <i>4,175</i>
Yellow Perch	0.0283	55 <i>47</i>	764 <i>243</i>	3,245 <i>1,048</i>	9,684 <i>2,469</i>	25,409 <i>4,568</i>	35,198 <i>7,202</i>	0 <i>0</i>	74,355 <i>8,943</i>
Walleye	0.0298	13,206 <i>3123</i>	21,654 <i>4110</i>	9,042 <i>2098</i>	10,197 <i>2398</i>	19,842 <i>2887</i>	4,499 <i>1221</i>	0 <i>0</i>	78,440 <i>6,828</i>
Total Harvest	0.2121	28,495 <i>4,034</i>	77,635 <i>6,827</i>	110,834 <i>4,836</i>	162,101 <i>6,002</i>	101,911 <i>5,895</i>	76,481 <i>7,558</i>	21 <i>0</i>	557,478 <i>14,634</i>
Angler Hours		276,013 <i>17,438</i>	352,789 <i>19,930</i>	425,777 <i>18,646</i>	626,810 <i>22,062</i>	482,358 <i>21,066</i>	464,561 <i>14,815</i>	45 <i>0</i>	2,628,353 <i>46,893</i>

Table 5. Estimated harvest-rate (harvest per hour), harvest and effort for the **BOAT FISHERY** with all surveys combined for Wisconsin waters of Lake Michigan and Green Bay during 2016. Standard deviations are in *Italics*.

Species	Harvest per hour	Jan/Feb/ March/April	May	June	July	August	Sept/Oct	Nov/Dec	Season
Coho Salmon	0.0564	313 <i>112</i>	31,737 <i>3,722</i>	48,209 <i>3,319</i>	30,378 <i>2,278</i>	5,530 <i>496</i>	1,771 <i>268</i>	3 <i>0</i>	117,941 <i>5,513</i>
Chinook Salmon	0.0605	21 <i>10</i>	2,779 <i>450</i>	22,946 <i>1,497</i>	72,871 <i>4,006</i>	21,282 <i>1,398</i>	6,549 <i>704</i>	0 <i>0</i>	126,448 <i>4,576</i>
Rainbow Trout	0.0333	11 <i>10</i>	4,464 <i>555</i>	21,314 <i>1,714</i>	20,211 <i>1,204</i>	18,386 <i>1,620</i>	5,156 <i>655</i>	0 <i>0</i>	69,542 <i>2,784</i>
Brown Trout	0.0085	7,600 <i>2,299</i>	903 <i>154</i>	332 <i>118</i>	3,708 <i>444</i>	2,184 <i>389</i>	3,043 <i>816</i>	18 <i>0</i>	17,788 <i>2,518</i>
Brook Trout	0.0000	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>
Lake Trout	0.0091	196 <i>104</i>	970 <i>161</i>	3,321 <i>439</i>	5,851 <i>426</i>	6,194 <i>497</i>	2,439 <i>298</i>	0 <i>0</i>	18,971 <i>864</i>
Splake	0.0000	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>
Northern Pike	0.0013	823 <i>769</i>	563 <i>242</i>	43 <i>43</i>	73 <i>58</i>	309 <i>329</i>	810 <i>606</i>	0 <i>0</i>	2,621 <i>1,064</i>
White Perch	0.0000	0 <i>0</i>	21 <i>21</i>	0 <i>0</i>	0 <i>0</i>	49 <i>49</i>	0 <i>0</i>	0 <i>0</i>	70 <i>53</i>
Smallmouth Bass	0.0077	0 <i>0</i>	12,257 <i>3,890</i>	1,333 <i>1,195</i>	1,914 <i>869</i>	536 <i>259</i>	154 <i>136</i>	0 <i>0</i>	16,194 <i>4,171</i>
Yellow Perch	0.0336	0 <i>0</i>	764 <i>243</i>	2,313 <i>781</i>	8,486 <i>2,429</i>	24,547 <i>4,536</i>	34,251 <i>7,193</i>	0 <i>0</i>	70,361 <i>8,881</i>
Walleye	0.0324	3,447 <i>911</i>	21,473 <i>4,108</i>	8,637 <i>2,081</i>	9,981 <i>2,388</i>	19,796 <i>2,887</i>	4,499 <i>1,221</i>	0 <i>0</i>	67,833 <i>6,129</i>
Total Harvest	0.2428	12,411 <i>2,594</i>	75,931 <i>6,822</i>	108,448 <i>4,772</i>	153,473 <i>5,952</i>	98,813 <i>5,858</i>	58,672 <i>7,441</i>	21 <i>0</i>	507,769 <i>14,182</i>
Angler Hours		162,507 <i>15,501</i>	304,666 <i>19,384</i>	378,907 <i>18,232</i>	550,185 <i>21,512</i>	428,829 <i>20,742</i>	266,283 <i>12,772</i>	45 <i>0</i>	2,091,422 <i>44,773</i>

Table 6. Estimated harvest-rate (harvest per hour), harvest and effort for the **PIER FISHERY** with all survey areas combined for Wisconsin waters of Lake Michigan and Green Bay during 2016. Standard deviations are in *Italics*.

Species	Harvest per hour	March/April	May	June	July	August	Sept/Oct	Season
Coho Salmon	0.0315	20 <i>16</i>	483 <i>153</i>	111 <i>54</i>	3,482 <i>451</i>	119 <i>39</i>	587 <i>145</i>	4,802 <i>502</i>
Chinook Salmon	0.0211	0 <i>0</i>	59 <i>26</i>	187 <i>110</i>	2,063 <i>296</i>	308 <i>77</i>	603 <i>107</i>	3,220 <i>343</i>
Rainbow Trout	0.0073	12 <i>9</i>	48 <i>23</i>	31 <i>31</i>	379 <i>106</i>	429 <i>151</i>	210 <i>66</i>	1,109 <i>200</i>
Brown Trout	0.0056	65 <i>30</i>	161 <i>54</i>	27 <i>17</i>	368 <i>81</i>	89 <i>33</i>	146 <i>56</i>	856 <i>122</i>
Brook Trout	0.0000	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>
Lake Trout	0.0007	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	28 <i>17</i>	74 <i>52</i>	102 <i>55</i>
Splake	0.0000	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>
Northern Pike	0.0004	0 <i>0</i>	0 <i>0</i>	20 <i>20</i>	0 <i>0</i>	0 <i>0</i>	36 <i>22</i>	56 <i>30</i>
White Perch	0.0000	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>
Smallmouth Bass	0.0016	0 <i>0</i>	64 <i>48</i>	55 <i>43</i>	53 <i>55</i>	73 <i>57</i>	0 <i>0</i>	245 <i>103</i>
Yellow Perch	0.0120	0 <i>0</i>	0 <i>0</i>	845 <i>698</i>	746 <i>416</i>	108 <i>62</i>	130 <i>138</i>	1,829 <i>826</i>
Walleye	0.0003	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	46 <i>46</i>	0 <i>0</i>	46 <i>46</i>
Total Harvest	0.0805	97 <i>35</i>	815 <i>173</i>	1,276 <i>711</i>	7,091 <i>696</i>	1,200 <i>202</i>	1,786 <i>249</i>	12,265 <i>1,060</i>
Angler Hours		5,564 <i>917</i>	17,614 <i>1,835</i>	15,866 <i>1,727</i>	53,266 <i>3,967</i>	27,905 <i>2,529</i>	32,115 <i>2,734</i>	152,330 <i>6,066</i>

Table 7. Estimated harvest-rate (harvest per hour), harvest and effort for the **SHORE FISHERY** with all survey areas combined for Wisconsin waters of Lake Michigan and Green Bay during 2016. Standard deviations are in *Italics*.

Species	Harvest per hour	March/April	May	June	July	August	Sept/Oct	Season
Coho Salmon	0.0179	130 <i>59</i>	84 <i>47</i>	229 <i>107</i>	399 <i>143</i>	82 <i>42</i>	1,493 <i>273</i>	2,417 <i>338</i>
Chinook Salmon	0.0149	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	211 <i>90</i>	125 <i>42</i>	1,670 <i>262</i>	2,006 <i>281</i>
Rainbow Trout	0.0090	176 <i>71</i>	35 <i>28</i>	10 <i>10</i>	58 <i>30</i>	145 <i>50</i>	789 <i>164</i>	1,213 <i>191</i>
Brown Trout	0.0280	1,121 <i>260</i>	232 <i>121</i>	313 <i>129</i>	197 <i>62</i>	480 <i>147</i>	1,434 <i>258</i>	3,777 <i>437</i>
Brook Trout	0.0000	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>
Lake Trout	0.0005	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	64 <i>50</i>	64 <i>50</i>
Splake	0.0000	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>
Northern Pike	0.0005	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	4 <i>4</i>	0 <i>0</i>	67 <i>69</i>	71 <i>69</i>
White Perch	0.0000	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>
Smallmouth Bass	0.0017	0 <i>0</i>	235 <i>96</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	235 <i>96</i>
Yellow Perch	0.0096	0 <i>0</i>	0 <i>0</i>	87 <i>40</i>	452 <i>150</i>	754 <i>535</i>	0 <i>0</i>	1,293 <i>557</i>
Walleye	0.0003	40 <i>39</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	40 <i>39</i>
Total Harvest	0.0824	1,467 <i>279</i>	586 <i>164</i>	639 <i>173</i>	1,321 <i>236</i>	1,586 <i>560</i>	5,517 <i>494</i>	11,116 <i>865</i>
Angler Hours		14,862 <i>1,452</i>	10,307 <i>1,201</i>	12,853 <i>1,701</i>	15,085 <i>1,491</i>	18,578 <i>2,324</i>	63,184 <i>4,473</i>	134,869 <i>5,838</i>

Table 8. Estimated harvest-rate (harvest per hour), harvest, and effort for the **STREAM FISHERY** with all survey areas combined for Wisconsin waters of Lake Michigan and Green Bay during 2016. Standard deviations are in *Italics*.

Species	Harvest per hour	March/April	May	June	July	August	Sept/Oct	Season
Coho Salmon	0.0032	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	804 <i>263</i>	804 <i>263</i>
Chinook Salmon	0.0297	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	7,408 <i>1,088</i>	7,408 <i>1,088</i>
Rainbow Trout	0.0199	4,597 <i>734</i>	17 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	368 <i>160</i>	4,982 <i>751</i>
Brown Trout	0.0058	149 <i>60</i>	12 <i>12</i>	0 <i>0</i>	0 <i>0</i>	312 <i>296</i>	985 <i>256</i>	1,458 <i>396</i>
Brook Trout	0.0000	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>
Lake Trout	0.0000	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>
Splake	0.0000	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>
Northern Pike	0.0002	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	44 <i>37</i>	44 <i>37</i>
White Perch	0.0001	0 <i>0</i>	0 <i>0</i>	33 <i>32</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	33 <i>32</i>
Smallmouth Bass	0.0008	0 <i>0</i>	93 <i>93</i>	33 <i>33</i>	0 <i>0</i>	0 <i>0</i>	80 <i>43</i>	206 <i>107</i>
Yellow Perch	0.0035	55 <i>47</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	817 <i>333</i>	872 <i>336</i>
Walleye	0.0421	9,719 <i>2,987</i>	181 <i>134</i>	405 <i>269</i>	216 <i>216</i>	0 <i>0</i>	0 <i>0</i>	10,521 <i>3,010</i>
Total Harvest	0.1054	14,520 <i>3,077</i>	303 <i>164</i>	471 <i>273</i>	216 <i>216</i>	312 <i>296</i>	10,506 <i>1,208</i>	26,328 <i>3,341</i>
Angler Hours		93,080 <i>7,799</i>	20,202 <i>4,081</i>	18,151 <i>3,059</i>	8,274 <i>2,450</i>	7,046 <i>1,324</i>	102,979 <i>5,373</i>	249,732 <i>11,112</i>

Table 9. Average weight, average length and standard weight of salmonids from Wisconsin's Lake Michigan creel survey during 2007 through 2016, all areas and fishery types combined. std = standard deviation.

Year	Average weight (lbs.)	± 1 std	Average length (in.)	± 1 std	Standard weight (lbs.)
Coho salmon					
2007	4.5479	1.4540	22.9910	2.2278	3.7990
2008	4.4560	2.0490	22.4677	3.1329	3.9681
2009	4.9807	1.9220	23.2278	2.9728	4.2262
2010	4.5751	2.2101	22.8805	3.7821	3.9833
2011	4.2329	1.8161	22.1766	2.6627	3.9868
2012	3.4466	1.4930	20.6385	2.8135	3.8802
2013	5.3848	2.6743	23.6931	3.4848	4.0654
2014	3.9803	1.9275	21.2898	3.0179	3.9316
2015	4.0000	1.8299	21.4375	3.3676	3.8470
2016	4.7300	1.9033	23.3117	2.6028	3.9260
Chinook salmon					
2007	10.2004	4.4631	29.6011	4.8774	9.0942
2008	9.6660	4.7395	28.6085	4.9816	9.4565
2009	11.0706	5.3288	29.6812	5.5420	9.7943
2010	8.7700	4.3646	28.0374	5.5873	8.5914
2011	10.1487	5.8206	28.0507	6.0373	10.2631
2012	10.2651	4.0305	30.0844	4.6550	8.8881
2013	10.4966	7.0121	28.1742	6.7792	10.2408
2014	11.3915	5.0015	30.0012	4.8944	10.2321
2015	10.4108	4.5165	29.7477	5.4302	9.1940
2016	10.3154	6.0139	28.1910	5.9369	10.3142
Rainbow trout					
2007	6.5670	2.7310	25.9133	4.0252	3.8683
2008	5.8041	2.5126	24.6186	3.6684	3.8944
2009	6.4368	2.6692	25.1826	3.9525	4.5698
2010	6.2216	2.5984	25.6125	3.9888	4.3301
2011	6.1851	2.6215	24.8381	3.8826	4.2453
2012	6.3634	2.4765	26.1214	3.7593	4.2812
2013	6.4838	2.6676	25.5596	3.7736	4.0376
2014	6.7767	2.8838	25.9776	3.8120	4.1739
2015	5.7588	2.4129	25.2419	4.4224	3.9037
2016	5.8938	2.5324	24.7988	3.8542	4.2855
Brown trout					
2007	4.8583	2.9599	20.9185	3.7287	3.7323
2008	5.7157	3.1288	22.2123	3.7398	3.7529
2009	6.7666	3.9047	22.8051	4.3925	4.4162
2010	7.7499	4.3883	24.2774	5.0338	3.8949
2011	4.9160	4.0068	19.7757	5.5077	4.1725
2012	4.7658	2.7347	20.7304	3.7789	4.0676
2013	5.8537	3.0350	22.0303	3.6793	3.9190
2014	5.8459	3.3608	21.2050	4.6428	4.2392
2015	5.1532	3.1955	20.9572	4.3664	3.8568
2016	5.3826	4.0422	20.7914	5.2190	3.9606
Lake trout					
2007	5.8834	2.8582	24.7787	3.4032	5.4606
2008	6.0624	3.2897	24.5111	3.3282	5.9121
2009	6.0985	2.5753	25.1504	3.2636	5.5297
2010	5.9275	3.2344	24.2994	3.9970	5.9239
2011	6.1933	3.1017	25.0834	3.6291	5.6477
2012	6.7815	3.6110	26.1740	4.1798	5.3274
2013	5.8791	2.7630	25.0904	3.1524	5.3559
2014	6.3332	3.4466	24.7813	4.0396	5.8595
2015	7.4777	3.7718	26.8174	4.1894	5.6124
2016	6.6598	3.4108	25.7354	3.8402	5.8303

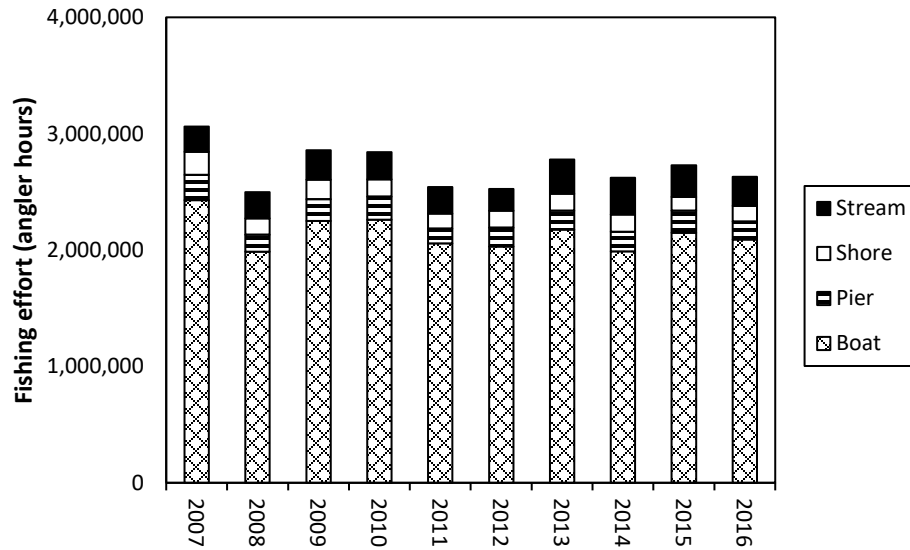


Figure 1. Fishing effort (angler hours) in Wisconsin waters of Lake Michigan and Green Bay from 2007 through 2016.

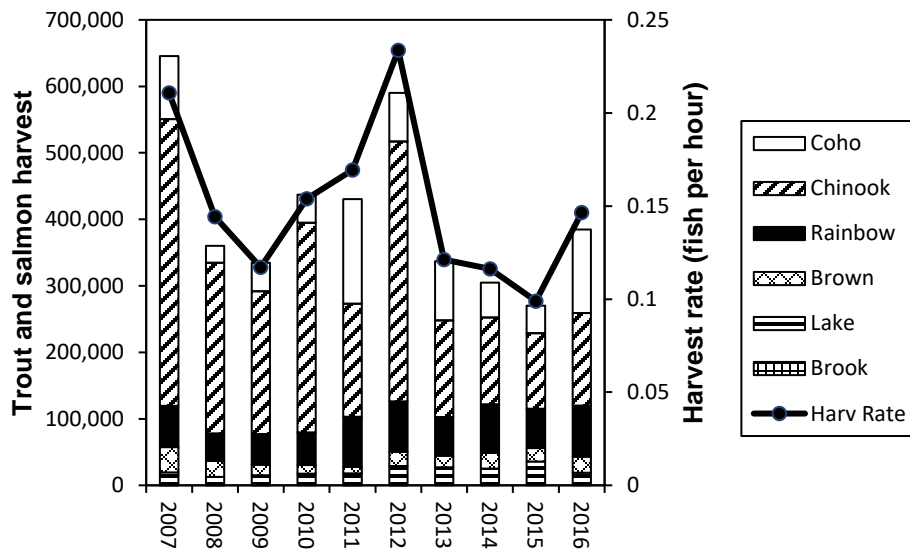


Figure 2. Trout and salmon harvest and harvest-rate from Wisconsin waters of Lake Michigan and Green Bay from 2007 through 2016.

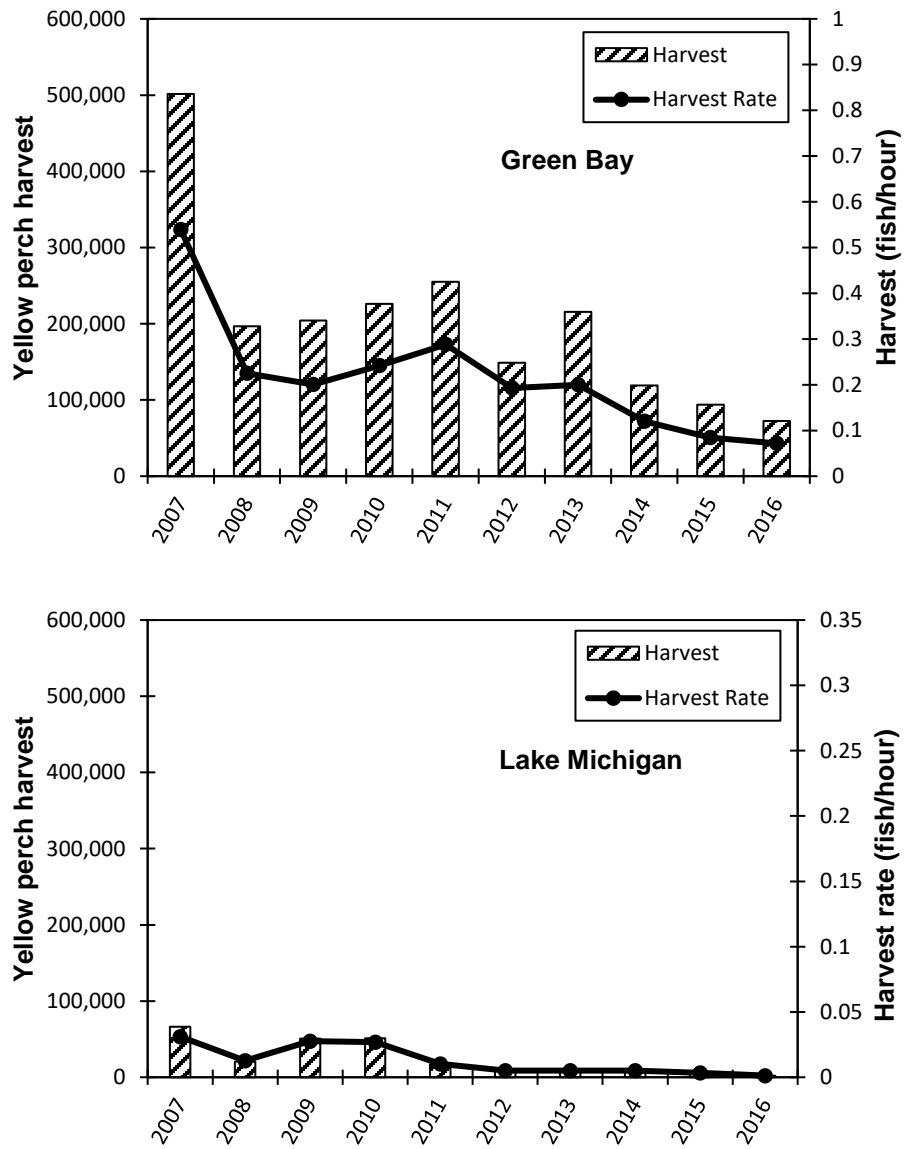


Figure 3. Yellow perch angler-harvest and harvest-rate from Wisconsin waters of Green Bay and Lake Michigan from 2007 through 2016. Note: Figure 3 reflects that some Door County sites represent Green Bay for yellow perch harvest statistics.